

I Claim:

5 1. A facet joint prosthesis to replace, on a vertebral body, a cephalad portion of a natural facet joint, the prosthesis comprising a component sized to be fixed to the vertebral body and including an artificial facet joint structure adapted to replace the cephalad portion of the natural facet joint after removal of the cephalad portion of the natural facet joint from the vertebral body.

5 2. A facet joint prosthesis to replace, on a vertebral body, a cephalad portion of a natural facet joint having a preexisting articular configuration, the prosthesis comprising a component sized to be fixed to the vertebral body and including an artificial facet joint structure adapted to replace the cephalad portion of the natural facet joint after removal of the cephalad portion of the natural facet joint from the vertebral body, the artificial facet joint structure comprising an artificial articular configuration unlike the preexisting natural articular configuration.

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3. A prosthesis according to claim 1 or 2 wherein the component is sized to be fixed to the vertebral body on or near a pedicle.

4. A prosthesis according to claim 1 or 2 wherein the component is sized to be fixed to the vertebral body on or near a lamina.

5. A prosthesis according to claim 1 or 2 wherein the component is sized to be fixed to the vertebral body on or near a spinous process.

6. A prosthesis according to claim 1 or 2 wherein the artificial facet joint structure is removable from the component.

7. A prosthesis according to claim 1 or 2 wherein the artificial facet joint structure includes a bony in-growth surface.

8. A method of replacing, on a vertebral body, a

cephalad portion of a natural facet joint, the method comprising the steps of

5 removing the cephalad portion of the natural facet joint from the vertebral body, and

fixing a component to the vertebral body that includes an artificial facet joint structure adapted to replace the removed cephalad portion of the natural facet joint.

9. A method of replacing on a vertebral body a cephalad portion of a natural facet joint having a preexisting articular configuration, the method comprising the steps of

5 removing the cephalad portion of the natural facet joint from the vertebral body, and

fixing a component to the vertebral body that includes an artificial facet joint structure adapted to replace the removed cephalad portion of the natural facet joint, the  
10 artificial facet joint structure including an artificial articular configuration unlike the preexisting articular configuration of the removed cephalad portion of the natural facet joint.

10. A facet joint prosthesis to replace, on a vertebral body, a caudal portion of a natural facet joint, the prosthesis comprising a component sized to be fixed to the vertebral body and including an artificial facet joint  
5 structure adapted to replace the caudal portion of the natural facet joint after removal of the caudal portion of the natural facet joint from the vertebral body.

11. A facet joint prosthesis to replace, on a vertebral body, a caudal portion of a natural facet joint having a preexisting articular configuration, the prosthesis comprising a component sized to be fixed to the vertebral  
5 body and including an artificial facet joint structure adapted to replace the caudal portion of the natural facet joint after removal of the caudal portion of the natural facet joint from the vertebral body, the artificial facet

10 joint structure comprising an artificial articular configuration unlike the preexisting natural articular configuration.

12. A prosthesis according to claim 10 or 11 wherein the component is sized to be fixed to the vertebral body on or near a pedicle.

13. A prosthesis according to claim 10 or 11 wherein the component is sized to be fixed to the vertebral body on or near a lamina.

14. A prosthesis according to claim 10 or 11 wherein the component is sized to be fixed to the vertebral body on or near a spinous process.

15. A prosthesis according to claim 10 or 11 wherein the artificial facet joint structure is removable from the component.

16. A prosthesis according to claim 10 or 11 wherein the artificial facet joint structure includes a bony in-growth surface.

17. A method of replacing, on a vertebral body, a caudal portion of a natural facet joint, the method comprising the steps of

5 removing the caudal portion of the natural facet joint from the vertebral body, and

fixing a component to the vertebral body that includes an artificial facet joint structure adapted to replace the removed caudal portion of the natural facet joint.

18. A method of replacing on a vertebral body a caudal portion of a natural facet joint having a preexisting articular configuration, the method comprising the steps of

5 removing the caudal portion of the natural facet joint from the vertebral body, and

fixing a component to the vertebral body that includes an artificial facet joint structure adapted to replace the removed caudal portion of the natural facet joint, the artificial facet joint structure including an artificial

10 articular configuration unlike the preexisting articular  
configuration of the removed caudal portion of the natural  
facet joint.

19. A prosthesis assembly for replacing a natural  
facet joint between a first vertebral body and a second  
vertebral body that is immediately inferior to the first  
vertebral body, the assembly comprising

5 a first component sized to be fixed to the first  
vertebral body and including a first artificial facet joint  
structure adapted to replace a cephalad portion of the  
natural facet joint on the first vertebral body after  
removal of the cephalad portion of the natural facet joint  
10 from the first vertebral body,

a second component sized to be fixed to the second  
vertebral body and including a second artificial facet joint  
structure adapted to replace the caudad portion of the  
natural facet joint of the second vertebral body after  
15 removal of the caudad portion of the natural facet joint  
from the second vertebral body,

the first and second artificial facet joint structures  
comprising an artificial facet joint.

20. A prosthesis assembly for replacing a natural  
facet joint between a first vertebral body and a second  
vertebral body that is immediately inferior to the first  
vertebral body, the natural facet joint having a preexisting  
5 articular configuration, the assembly comprising

a first component sized to be fixed to the first  
vertebral body and including a first artificial facet joint  
structure adapted to replace a cephalad portion of the  
natural facet joint on the first vertebral body after  
10 removal of the cephalad portion of the natural facet joint  
from the first vertebral body,

a second component sized to be fixed to the second  
vertebral body and including a second artificial facet joint  
structure adapted to replace the caudad portion of the

15 natural facet joint of the second vertebral body after  
removal of the caudad portion of the natural facet joint  
from the second vertebral body,

the first and second artificial facet joint structures  
comprising an artificial facet joint having an artificial  
20 articular configuration unlike the preexisting articular  
configuration.

21. A prosthesis assembly according to claim 19 or  
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5 wherein at least one of the first and second  
artificial facet joint structures includes a bony in-growth  
surface.

22. A method of total replacement of a natural facet  
joint comprising the steps of

removing a cephalad portion of the natural facet joint  
from a first vertebral body,

5 removing a caudal portion of the natural facet joint  
from a second vertebral body immediately inferior to the  
first vertebral body,

fixing a first component to the first vertebral body,  
the first component including a first artificial facet joint  
10 structure adapted to replace the cephalad portion of the  
natural facet joint after its removal from the first  
vertebral body,

fixing a second component to the second vertebral  
body, the second component including a second artificial  
15 facet joint structure adapted to replace the caudad portion  
of the natural facet joint after its removal from the second  
vertebral body, and

articulating the first and second artificial facet  
joint structures to form an artificial facet joint.

23. A method of total replacement of a natural facet  
joint having a preexisting articular configuration,  
comprising the steps of

removing a cephalad portion of the natural facet joint

5 from a first vertebral body,

removing a caudal portion of the natural facet joint  
from a second vertebral body immediately inferior to the  
first vertebral body,

10 fixing a first component to the first vertebral body,  
the first component including a first artificial facet joint  
structure adapted to replace the cephalad portion of the  
natural facet joint after its removal from the first  
vertebral body,

15 fixing a second component to the second vertebral  
body, the second component including a second artificial  
facet joint structure adapted to replace the caudad portion  
of the natural facet joint after its removal from the second  
vertebral body, and

20 articulating the first and second artificial facet  
joint structures to form an artificial facet joint having an  
artificial articular configuration unlike the preexisting  
articular configuration.